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Filed : January 19, 2000

### REMARKS

In the outstanding Office Action, the Examiner has rejected Claims 12-27. Claims 12-15, 16, 17, 20, 21, 23-27 have been amended. No new matter has been added. Furthermore, the amendments are for clarification and are not intended to be narrowing. Thus, Claims 12-27 are presented for further examination. Reconsideration and allowance of all Claims 12-27 in light of the present remarks is respectfully requested.

#### Discussion of Rejections Under 35 U.S.C. § 103(a)

The Examiner has rejected Claims 12-20, 22, 25-26 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,360,091 to Schellinger, et al. in view of U.S. Patent No. 5,748,621 to Masuda, et al., and further in view of U.S. Patent No. 5,617,467 to Bacher, et al. The Examiner has also rejected Claims 21, 23-24 under 35 U.S.C. § 103(a) as being unpatentable over Schellinger and Masuda in view of Bacher, in further view of U.S. Patent No. 6,167,271 to Parker, et al.

#### I. Claims 12 and 20

##### A. The Examiner's Grounds for Rejection

Regarding Claims 12, 13, and 20, the Examiner stated that "Schellinger teaches a cordless communication system for the operation of a mobile terminal of a mobile communication system with a base station that is connected to a public fixed network and that is compatible at an air interface with the mobile communication system that has at least one authentication function cordless communication system (col. 3, lines 32-40) ... ."

The Examiner recognized that "Schellinger fails reading and writing from to, at least one a first identification module ... , wherein sections of data of the identification module through, wherein the section of the first identification module ... used in the base station is identical to the section of a second identification module of an access-authorized mobile terminal; processing data read from the first identification module ... ; processing data read from the second identification module ... ; authenticating the mobile terminal ... ."

However, the Examiner stated that "Masuda teaches a mobile communication system comprising: at least one a first identification module (base station), wherein sections of data of the identification module through, wherein the section of the first identification module (mobile) (col 8 lines 23-42) used in the base station is identical to the section of a second identification

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module (base station) of an access-authorized mobile terminal (col 3, lines 45-55); processing data read from the first identification module through software implemented in the base station, using a random number generated at the base station, so as to generate a first authentication result (col 8 lines 23-42); processing data read from the second identification module, using the random number generated at the base station, so as to generate a second authentication result (col 8 lines 23-32); authenticating the mobile terminal with regard to the base station through the first authentication result and the second authentication result (col 8 lines 23-40); wherein the base station fulfills the same functions and tasks with respect to access control and authentication as the home location register (col 8 lines 23-40), and respectively, the authentication center of the mobile communication system (col 8 lines 23-40), and wherein the authentication is performed without accessing a home location register in a mobile communication system (see figure 6, col 8 lines 23-40)."

The Examiner argued that "[t]herefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching Masuda with Schellinger cordless Base Station, in order to provide authentication method which does not require any means for storing an authentication random number corresponding each mobile station and also provide an advance authentication calculation result."

The Examiner further recognized that "Schellinger modified by Masuda does not specifically mention a read/write unit exists within the base station configured to read and write information from/to, and processing data read from the identification module through software implemented in the base station." The Examiner also stated, however, that "Bacher teaches a read/write unit within a Base Station, is configured to read/write information from/to, and processing data read from the identification module through software implementing in the base station (col 5 lines 45-55)." The Examiner thus argued that "it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching of Bacher with Schellinger cordless Base Station modified by Masuda, in order to provide more flexibility for the wireless communication system."

**B. The Legal Standard**

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 U.S.P.Q. 580.

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C. Masuda Is Not Related To Cellular Telephony

First, in regard to Masuda, Applicant respectfully disagrees with the Examiner that "Masuda teaches a mobile communication system" as claimed. The system described by Masuda is more appropriately a cordless telephone system for home and business use and not a mobile communication system in the sense that term is used in the claims. See Masuda at col. 6, lines 41-43. Applicant submits that although the meaning of the term "mobile communication system" is clear from the claim as examined in reference to the specification, which derives from an European priority application and the contextual terms of "public fixed network", "authentication center", and "home location register", the claims have been amended to recite "cellular communication system" so as to clarify what is being claimed. Furthermore, Masuda fails to teach a cellular communication system and instead describes a cordless communication system wherein the mobile stations have two modes: a personal station to cell station (master-slave) mode and a personal station to personal station (transceiver) mode. Col. 7, lines 46-53.

Second, because Masuda fails to teach a cellular communication system, Masuda cannot teach that "sections of data of the first subscriber identity module used in the base station are identical to sections of data stored on a second subscriber identity module of a mobile terminal authorized to access the public cellular communication system" as recited in Claim 12.

D. Masuda Also Fails To Teach Subscriber Identity Modules

Third, Masuda fails to teach first and second subscriber identity modules, wherein "sections of data of the first subscriber identity module used in the base station are identical to sections of data stored on [the] second subscriber identity module". Masuda neither teaches nor suggests first and second subscriber identity modules as recited in Claim 12.

E. Masuda Also Fails to Teach Processing Data In The Manner Claimed

Fourth, Masuda fails to teach or suggest "processing data read from the first subscriber identity module through software implemented in the base station, using a random number generated at the base station, so as to generate a first authentication result." Masuda describes a system wherein the "cell" station 100 issues and transmits an authentication random number to a calling personal station 200. Masuda at col. 8, lines 24-27. The calling personal station 200 then uses its own authentication key to code the random number and generate an authentication calculated result, and uses an authentication response message (MM) to send the authentication calculated result to the "cell" station 100. Col. 8, lines 27-31.

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Masuda also states that the "cell station 100 having received the authentication response message (MM) determines whether an authentication calculated result obtained by *similarly using an authentication random number and an authentication key in the home memory of the calling personal station 200* agrees with the authentication calculated result noticed by the calling personal station 200." *Col. 8, lines 32-38*. It appears that the reference to the "calling personal station 200" in the italicized text is an error because it is unclear what "the home memory of the calling personal station" is. There is no other reference to "the home memory of the calling personal station" in Masuda, nor does Masuda specify that the cell station stores an authentication key. Perhaps the step of the calling personal station 200 informing a secret key to the cell station 100 according to a secret key setting message (RT) (*col. 8, lines 20-22*) is related to the "authentication key in the home memory of the calling personal station 200".

In view of the ambiguous description in Masuda, Applicant respectfully submits that Masuda cannot be properly construed as teaching or suggesting "processing data read from the first subscriber identity module through software implemented in the base station ..." as recited in Claim 12.

F. Bacher Fails To Teach A Read And Write Unit As Configured

In regard to Bacher, Bacher fails to teach reading and writing from and to a first subscriber identity module through a read and write unit of a base station. Applicant respectfully submits that the "read-write memory RAM" described by Bacher (*col. 5, lines 50-55*) cannot be properly construed as a read and write unit for reading and writing to a subscriber identity module. Furthermore, Bacher fails to cure the deficiencies of Schilling and Masuda.

G. There Is No Motivation To Combine Bacher

Applicant also respectfully submits that there is no motivation or teaching in either Schellinger, Masuda, nor Bacher to combine the teachings of Bacher with those of Schellinger and Masuda as suggested by the Examiner. The Examiner argued that "[u]sing readable/writable memory instead of readable memory within the base station, provides more variety to the user, for example enabling the user to use multiple handsets with one base", and that "[t]herefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teachings of Bacher with Schellinger cordless Base Station modified by Masuda, in order to provide more flexibility for the wireless communication system."

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It is well-settled that "a showing of a suggestion, teaching, or motivation to combine [or modify] the prior art references is an 'essential component of an obviousness holding'." *C.R. Bard, Inc. v. M3 Systems, Inc.*, 157 F.3d 1340, 1352 (Fed. Cir. 1998). The Examiner can satisfy the burden of showing obviousness of the combination or modification "only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." *In re Fritch*, 972 F.2d 1260, 1265 (Fed. Cir. 1992). Determination of obviousness cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention. *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 546 (Fed. Cir. 1998). Furthermore, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaack*, 947 F.2d 488, 20 U.S.P.Q.2d 1433 (Fed. Cir. 1991).

The only discussion or mention of the read-write memory in Bacher is that a "local bus LB is also connected to a read memory ROM and to a read-write memory RAM." Bacher further provides that the "non-resistant information are thereby essentially stored in the read-write memory RAM and the programs that monitor and coordinate the base station BS are essentially stored in the read memory ROM." Bacher's mention of a read-write memory without further discussion of how it is used or beneficial to the communication system is not an objective teaching that would lead an individual to combine the read-write memory with the teachings of Schellinger and Masuda to arrive at the claimed invention. Furthermore, it is not clear why using a readable/writable memory provides more variety to the user or why combining such an element with the teachings of Schellinger and Masuda would provide more flexibility for the wireless communication system as stated by the Examiner. Applicant respectfully submits that there is no objective teaching in the prior art or knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references to arrive at the method of Claim 12.

H. Claims 12 And 20 Are Patentable

Thus, there is no motivation or suggestion to combine or modify reference teachings to arrive at the claimed invention absent Applicant's disclosure, nor does the combination of Schellinger, Masuda, and Bacher teach or suggest every element as recited in Claim 12. Therefore, Applicant respectfully submits that Claim 12 is in condition for allowance.

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As amended Claim 20 recites limitations similar to those recited in the method of Claim 12, the arguments with respect to Claim 12 similarly apply to Claim 20, and thus, Claim 20 is respectfully submitted for further review as patentable subject matter.

Because Claims 13-19 and 21-24 depend from Claims 12 and 20, pursuant to 35 U.S.C. § 112, ¶ 4, they incorporate by reference all the limitations of the claim to which they refer. It is therefore submitted that these claims are in condition for allowance at least for the reasons expressed with respect to the independent claim, and for their other features.

## II. Claim 25

In regard to Claim 25, the Examiner did not address the "generating" features recited in the claim and instead provided arguments with respect to the features recited in Claim 12 as examined. Specifically, the Examiner failed to point to any teaching or suggestion in the prior art of record of "generating a random number and generating a first authentication result based on the random number and the secret key using a ciphering algorithm at the base station; [and] generating a second authentication result based on the random number and the secret key using a ciphering algorithm at the access-authorized mobile terminal" as recited in Claim 25. Furthermore, the prior art of record fails to teach these features of the claim.

Furthermore, as discussed above in reference to Claim 12, Masuda fails to teach a cellular communication system. Therefore, Masuda cannot teach that "a secret key is stored on ... a second *identification module of a mobile terminal authorized to access the public cellular communication system*".

In addition, Bacher fails to cure these deficiencies of Masuda and simply teaches that the read-write memory RAM is implemented at a base station of a multi-cellular wireless telephone system. As recognized by the Examiner Schellinger also fails to teach the features missing from Masuda.

Thus, as neither Schellinger, Masuda, nor Bacher, either alone or in combination, teach or suggest every element as recited in Claim 25, Applicant respectfully submits that Claim 25 is in condition for allowance.

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### III. Claim 26

In regard to Claim 26, the Examiner repeated the arguments presented with respect to Claim 12, except that the Examiner stated that "Examiner takes official notice that transmitting a specific identification periodically from the base station to indicate presence and readiness for operation during a stand by mode is well known in the art." The Examiner further stated that "[t]herefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching with Schellinger, in order to provide more flexibility for the wireless communication system."

To avoid having the Examiner's statements become accepted prior art (*see M.P.E.P. 2144.03*), Applicant respectfully requests that the Examiner produce prior art in support of these statements if the rejection is to be maintained on this basis.

In addition, as Claim 26 recites limitations similar to those recited in the method of Claim 12, the arguments with respect to Claim 12 similarly apply to Claim 26, and thus, Claim 26 is respectfully submitted for further review as patentable subject matter.

### IV. Claim 27

#### A. The Examiner's Grounds For Rejection

The Examiner has rejected Claim 27 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,167,271 to Parker, et al. in view of U.S. Patent No. 5,748,621 to Masuda, et al.

Regarding Claim 27, the Examiner stated that "Parker teaches a system for the operation of a mobile terminal of a mobile communication system with a base station that is connected to a public fixed network (col. 8, lines 2-4) and that is compatible at an air interface with the mobile communication system that has at least one authentication function cordless communication system (col. 1, lines 44-63, col. 7, lines 51-60) comprising: reading and writing from and to, respectively, at least a first subscriber identity module (SIM) card through a read and write unit of the base station, wherein sections data of the first SIM used in the base station are identical to sections of data stored on a second SIM card of an access authorized mobile terminal (col. 9, lines 60-67, col. 10, lines 1-10)."

The Examiner recognized that "Parker fails to teach processing data read from the first SIM card through software implemented in the base station to generate a first authentication result", and the authenticating and operating processes recited in Claim 27. However, the

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Examiner stated that "Masuda teaches processing data read from the first identification module through software implemented in the base station to generate a first authentication result", and the authenticating and operating processes recited in Claim 27. The Examiner therefore argued that "it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teachings of Masuda with Parker, in order to provide a digital mobile communication system which can synchronize timings to start a personal station-to-personal station direct communication, and can improve the efficiency of using a frequency by eliminating time when communications cannot be made."

**B. The Legal Standard**

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 U.S.P.Q. 580.

**C. Parker Fails To Teach The Read And Write Unit Of The Base Station**

As discussed in Applicant's Office Action Response, filed February 3, 2004, Parker describes an interface between cellular and wired networks with enhanced subscriber mobility, wherein a Terminal Adapter Controller (TAC) 34 functions as a Base Transceiver Station (BTS) with wired connections to a GSM Wired Terminal Adapter (TA) 36, *which functions like a mobile subscriber*. Col. 3, lines 45-53; Fig. 1. The TA 36 includes a SIM interface 122 and a switched SIM interface 125, a SIM 111a plugged into the SIM interface 122, and a SIM 11b plugged into the switched SIM interface 125. Col. 5, line: 10-15; col. 7, lines 10-22; Fig. 3. The switched SIM interface 125 connects to an activate SIM switch 150 via a switch circuit interface 152, which carries an on/off or activate/deactivate/signal. Col. 7, lines 32-35; Fig. 3.

As illustrated in Figures 1 and 3 and discussed in Parker, the SIM interface is part of the GSM Wired Terminal Adapter (TA) 36, which functions like a mobile subscriber and not a base station. Furthermore, Parker defines a SIM card as a "smart" card inserted into a *mobile station*." Col. 3, lines 11-13 (emphasis added). Applicant notes that the activate SIM switch 150 can be placed in many locations, including an MS cradle or cordless telephone base station, however the activate SIM switch 150 is not the same as a SIM interface. Col. 7, line 54. Thus, Parker fails to teach or suggest reading and writing from and to a SIM card through a read and write unit of the base station.



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D. Masuda Fails To Teach Processing Data In The Manner Claimed

In reference to the discussion of Claim 12 above, Applicant respectfully submits that Masuda does not teach "processing data read from the first identification module through software implemented in the base station" as asserted by the Examiner. Masuda fails to teach either an identification module or a SIM card at the base station and therefore cannot teach processing data read from an identification module or a SIM card. Furthermore, as Claim 27 recites features similar to those recited in Claim 12, Applicant's arguments with respect to Claim 12 similarly apply to Claim 27.

Thus, as neither Parker nor Masuda, either alone or in combination, teach or suggest every element as recited in Claim 27, Applicant respectfully submits that Claim 27 is in condition for allowance.

Conclusion

Applicant has endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action. Accordingly, amendments to the claims for patentability purposes pursuant to statutory section 103, the reasons therefore, and arguments in support of the patentability of the pending claim set are presented above. In light of these amendments and remarks, reconsideration and withdrawal of the outstanding rejections is respectfully requested.

Applicant has now responded to SEVEN Office Actions <sup>;)</sup> overcoming rejections in the six prior Office Actions. As the Commissioner recognizes, this is an unusual and harsh burden now placed on Applicant. Accordingly, Applicant respectfully requests a telephonic interview with the Technology Center Director if there is a belief on the part of the Examiner and <sup>her</sup> his supervisor that there is any further impediment to an immediate allowance.

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Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: 11/12/04

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